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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *amendment filed 12/11/07*.

2a) ☒ This action is FINAL.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,2,4,5,7,9-15,17-22 and 24-26* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-2, 4-5, 7, 9-15, 17-22 and 24-26* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   The following is a Non-Final Office Action in response to the communication received

on December 11, 2007. Independent claims 1, 11, 20 and 26 have been amended. Claims 3, 6, 8,

16 and 23 have been cancelled. Claims 1-2, 4-5, 7, 9-15, 17-22 and 24-26 are pending in this

application.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-26 have been fully considered but are

moot in view of the new ground(s) of rejection.

Claim Objections

3.   Claim 10 is objected to because of the following informalities: the preamble of the claim

recites "…perform **the a method"**, this typo error of "the a" need to be corrected. Appropriate

correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

4.   Claims 10, 11-19 and 26 are rejected under 35 U.S.C. 101 because the claimed invention

is directed to non-statutory subject matter.

Regarding claims 10 and 26, the claims is rejected under 35 U.S.C. 101 for being directed

toward non-statutory subject matter. It appears that the computer readable medium that is

claimed by the Applicant is not limited to physical articles or objects, which are structurally and

functionally interrelated to the program in such a manner that would enable the program to act as

a computer component and realize any functionality. In paragraph [0043] of the Applicant's

Specification, the Applicant states that the computer readable media can be any available media

that can be accessed by computer..., computer readable media may comprise computer readable

media and communication media for which the computer program modules or other data of the

invention can be embodied includes "communication medium", "modulated data signal such as

carrier wave" and "any information delivery media".

Communication media, carrier waves, transmission media, or the like are not held to be

appropriate computer medium under 35 U.S.C. 101 because they fail to satisfy the conditions set

forth above. It is noted that in this instance, the Applicant's specification clearly distinguishes

between media, which "store" versus communications media, which convey or transfer the

program. Therefore, an amendment to the claims 10 and 26 would be favorably considered.

Regarding claim 11, the claim recites a system to increase subscription scalability

comprising a database system, a notification manager,... and communicate notification. Based

upon the language set forth in claim 11, it is reasonable to interpret that the claimed database

system or notification manager is solely software. This position can be reinforced by analyzing

paragraph [0056] of the Applicant's specification which recites that a "Database system 310 in

conjunction with a notification change manager (not shown) associates the query with a

subscription ID, stores the query, and processes the query to retrieve desired price data. In the

event that database system 310 is updated with new price data, notification changes manager (not

shown) identifies which data has changed and process a list of subscription IDs to identify which

services require notification of the price data modifications. In this example, the notification

changes manager (not shown) identifies that web services 320 is a subscriber and requires

notification of the price data update. Accordingly, database system 310 is queried, using the

original query provided by web services 320, to retrieve for communication the updated price

information to web services 320." Based upon the description of a notification manager set forth

in the Applicant's specification it is unclear if claim 11 is actually limited to any physical articles

or objects. It appears that the Applicant may be seeking to patent particular programmed

functionality of components, rather than the components themselves. Since the claim limitations

appear to be directed to programmed functionality and not the components of an apparatus

themselves, the claim stands rejected under 35 U.S.C. 101.

In order to overcome this rejection, the Applicant must amend claim 11 such that there is

some recitation of computer hardware which would then ensure that claim 11 is limited to an

apparatus consisting of software and hardware as opposed to just simply software. Doing so

ensures that the claimed invention is strictly limited to a physical article or object, and therefore

satisfy the requirements of 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-2, 4-5, 7, 9-15, 17-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Shrivastava et al. (US Pub. 2004/0243576 A1) in view of Mishra et al. (US

6,910,070 B1).

Regarding claims 1 and 10, Shrivastava discloses a method for providing notifications of

changes in a database system comprising:

- Receiving a plurality of query statements for querying a database system (¶[0076] and [0197], Shrivastava);

- creating a subscription template (abstract; ¶[0011]; [0125] and [0185]-[0186] , Shrivastava discloses generating a template);

- generating a parameter table from the plurality of query statements (abstract; ¶[0011]; [0141]-[0146] and [0185]-[0186] , Shrivastava discloses creating "catalog tables" corresponding to the claimed "parameter table"); and

- performing a join between parameter table and parameterized subscription template to generate a query (abstract; ¶[0011]; [0076]-[0086] and [0185]-[0186] , Shrivastava discloses the performance of a join operation to produce the query results reads on the claimed "a join between parameter table and parameterized subscription template to generate a query").

Shrivastava, however, does not disclose query statement corresponding to a computing application that has subscribed to receive notification of changes in the database system.

Mishra, on the hand, discloses procedural language or query language statement corresponding to computing application (steps S3b and S4b, Fig.1b) that has subscribed to receive notification of changes or update in the database system (Fig.1a-b; col.1, line 52 to col.2, line 32; col.3, lines 15-28 and lines 32-61 and col.5, lines 11-58, Mishra); parameter table comprising each query statement a constant representing a query value and a subscription identification value uniquely identifying a subscription associated with the particular query statement (col.5, line 11 to col.6, line 10, Mishra), executing the

query on the database system to identify query statements in the plurality of query

statements affected by the change in the data in the database 9 col. 5, line 59 to col. 6,

line 10, Mishra), and communicating notification to a computing application

corresponding to an identified query statement, the notification indication indicating a

change in the data in the database has occurred (col.3, lines 16-28 and lines

32-61; col.5, line 11 to col.6, line 39, Mishra).

It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to modify Shrivastava to include subscriptions to receive notification

of changes in the database as taught by Mishra because it would have been to provide a

specialized system to notify users of interesting changes to the database system or data

that is efficient and economical in bandwidth, time and effort (col.3, line 15-24, Mishra).

Regarding claim 2, Shrivastava/Mishra combination discloses communicating data from

the database system to the computing application (Fig.1a-b; col.1, line 52 to col.2, line 32; col.3,

lines 15-28 and lines 32-61 and col.5, lines 11-58, Mishra).

Regarding claim 4, Shrivastava/Mishra combination discloses retrieving data from the

database system (abstract; ¶[0011]; [0185]-[0186] , Shrivastava).

Regarding claim 5, Shrivastava/Mishra combination discloses communicating the data

retrieved from the database system to the computing application, said updated data reflecting the

change in the data in the database (col.3, lines 16-28 and lines

32-61; col.5, line 11 to col.6, line 39, Mishra).

Regarding claim 7, Shrivastava/Mishra combination discloses associating the
subscription identification value with a subscriber (col.3, lines 16-28 and lines 32-61; col.5, line
11 to col.6, line 39, Mishra).

Regarding claim 9, Shrivastava/Mishra combination discloses adding additional
parameters to the parameter table, wherein the additional parameters are not based on the created
subscription template (¶[0011]; [0176]-[0186] , Shrivastava).

Regarding claim 11, Shrivastava discloses a system to increase subscription scalability in
an electronic database environment comprising:

- a database system ("database", ¶[0045]; [0059] [0062] , Shrivastava), the database
  system capable of accepting and processing subscriptions by cooperating services
  and/or computing applications, the subscriptions offering query templates for
  execution on database system to retrieve desired data (¶[0011]; [0176]-[0186] ,
  Shrivastava);

- a notification manger ("particular manager" that sends emails to all users, [0184]), the
  notification manager operating on the database system to identify changes in data in
  the database system and to provide notifications to the cooperating services and/or
  computing applications of database system changes ([0176]-[0186] , Shrivastava).

- an optimization module, the optimization module using queries originating from
  subscribers to create subscription templates (abstract; ¶[0011]; [0185]-[0186] ,
  Shrivastava) which are parameterized to create a parameter table (abstract; ¶[0011];
  [0076]-[0086] and [0185]-[0186] , Shrivastava discloses "catalog tables" and "SQL
  statement" corresponding to the claimed "parameter table" and "subscription

template" respectively), wherein the parameter table is joined with the subscription

template to generate a notification query (abstract; ¶[0011]; [0185]-[0186] ,

Shrivastava discloses the performance of a join operation to produce the query results

reads on the claimed "the parameter table is joined with the subscription template to

generate a notification query").

     Shrivastava, however, does not disclose communicating notification to a

computing application corresponding to an identified query statement, the notification

indication indicating a change in the data in the database.

     Mishra, on the hand, discloses procedural language or query language statement

corresponding to computing application (steps S3b and S4b, Fig.1b) that has subscribed

to receive notification of changes or update in the database system (Fig.1a-b; col.1, line

52 to col.2, line 32; col.3, lines 15-28 and lines 32-61 and col.5, lines 11-58, Mishra);

parameter table comprising each query statement a constant representing a query value

and a subscription identification value uniquely identifying a subscription associated with

the particular query statement (col.5, line 11 to col.6, line 10, Mishra), executing the

query on the database system to identify query statements in the plurality of query

statements affected by the change in the data in the database 9 col. 5, line 59 to col. 6,

line 10, Mishra), and communicating notification to a computing application

corresponding to an identified query statement, the notification indication indicating a

change in the data in the database has occurred (col.3, lines 16-28 and lines

32-61; col.5, line 11 to col.6, line 39, Mishra).

It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to modify Shrivastava to include subscriptions to receive notification

of changes in the database as taught by Mishra because it would have been to provide a

specialized system to notify users of interesting changes to the database system or data

that is efficient and economical in bandwidth, time and effort (col.3, line 15-24, Mishra).

Regarding claim 12, Shrivastava/Mishra combination discloses the optimization module

comprises a computing application (abstract; ¶[0011]; [0185]-[0186] , Shrivastava).

Regarding claim 13, Shrivastava/Mishra combination discloses a communication means,

the communication means for use in communicating data between the database system and the

cooperating services and/or computing applications (col.3, lines 16-28 and lines

32-61; col.5, line 11 to col.6, line 39, Mishra).

Regarding claim 14, Shrivastava/Mishra combination discloses a spool, the spool used to

spool subscription queries (abstract; ¶[0011]; [0185]-[0186] , Shrivastava).

Regarding claim 15, Shrivastava/Mishra combination discloses a filter, the filter used to

filter out subscription queries (¶[0077]-[0079] and [0083] , Shrivastava).

Regarding claim 17, Shrivastava/Mishra combination discloses the notification manager

and the database system reside in the same data environment ([0176]-[0184] , Shrivastava).

Regarding claim 18, Shrivastava/Mishra combination discloses the notification manager,

the database system, and the optimization module reside in the same environment ([0176]-[0184]

, Shrivastava).

Regarding claim 19, Shrivastava/Mishra combination discloses wherein the parameter tables comprise any of query constants, subscriber identification information, and subscriber routing information ([0176]-[0184] , Shrivastava).

Regarding claims 20 and 26, Shrivastava discloses a method for increasing subscription scalability in electronic data environments comprising:

- accepting subscriptions from cooperating services and/or computing applications by a database system; processing the subscriptions to generate query templates, the query templates having queries (¶[0011]; [0176]-[0186] , Shrivastava);

- parameterizing the query templates to generate a parameter table (abstract; ¶[0011]; [0185]-[0186] , Shrivastava discloses "catalog tables" and "SQL statement" corresponding to the claimed "parameter table" and "subscription template" respectively); and

- joining the parameter table with the query templates to generate a notification query (abstract; ¶[0011]; [0076]-[0086] and [0185]-[0186] , Shrivastava discloses the performance of a join operation to produce the query results reads on the claimed "joining the parameter table with the query template to generate a notification query").

Shrivastava, however, does not disclose communicating notification to a computing application corresponding to an identified query statement, the notification indication indicating a change in the data in the database.

Mishra, on the hand, discloses procedural language or query language statement corresponding to computing application (steps S3b and S4b, Fig.1b) that has subscribed

to receive notification of changes or update in the database system (Fig.1a-b; col.1, line 52 to col.2, line 32; col.3, lines 15-28 and lines 32-61 and col.5, lines 11-58, Mishra); parameter table comprising each query statement a constant representing a query value and a subscription identification value uniquely identifying a subscription associated with the particular query statement (col.5, line 11 to col.6, line 10, Mishra), executing the query on the database system to identify query statements in the plurality of query statements affected by the change in the data in the database 9 col. 5, line 59 to col. 6, line 10, Mishra), and communicating notification to a computing application corresponding to an identified query statement, the notification indication indicating a change in the data in the database has occurred (col.3, lines 16-28 and lines 32-61; col.5, line 11 to col.6, line 39, Mishra).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Shrivastava to include subscriptions to receive notification of changes in the database as taught by Mishra because it would have been to provide a specialized system to notify users of interesting changes to the database system or data that is efficient and economical in bandwidth, time and effort (col.3, line 15-24, Mishra).

Regarding claim 21, Shrivastava/Mishra combination discloses spooling the query templates (abstract ¶[0011]; [0185]-[0186] , Shrivastava).

Regarding claim 22, Shrivastava/Mishra combination discloses filtering the query templates (¶[0077]-[0079] and [0083] , Shrivastava).

Regarding claim 24, Shrivastava/Mishra combination discloses the results of the
notification query to the cooperating services and/or computing applications ([0176]-[0184] ,
Shrivastava).

Regarding claim 25, Shrivastava/Mishra combination discloses adding parameters to the
parameter table not originating from the query templates (¶ [0046]-[0049] and [0054],
Shrivastava).

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to HANH B. THAI whose telephone number is (571)272-4029. The
examiner can normally be reached on Mon-Thur (7:00AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
applications is available through Private PAIR only. For more information about the PAIR
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like assistance from a USPTO Customer Service Representative or access to the automated
information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hanh B Thai

Examiner
Art Unit 2163

March 23, 2008

/don wong/
Supervisory Patent Examiner, Art Unit 2163